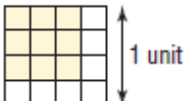
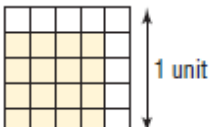


3. Use each diagram to determine the value of the square root.

a)  $\sqrt{0.25}$  

b)  $\sqrt{\frac{9}{16}}$  

c)  $\sqrt{\frac{16}{25}}$  

4. a) List all the whole numbers from 1 to 100 that are perfect squares.  
b) Write a square root of each number you listed in part a.

8. Which decimals and fractions are perfect squares? Explain your reasoning.

- |                    |                    |                    |
|--------------------|--------------------|--------------------|
| a) 0.12            | b) 0.81            | c) 0.25            |
| d) 1.69            | e) $\frac{9}{12}$  | f) $\frac{36}{81}$ |
| g) $\frac{81}{49}$ | h) $\frac{75}{27}$ | i) 0.081           |
| j) $\frac{25}{10}$ | k) 2.5             | l) $\frac{8}{50}$  |

9. Calculate the number whose square root is:

- |                  |                  |
|------------------|------------------|
| a) 0.3           | b) 0.12          |
| c) 1.9           | d) 3.1           |
| e) $\frac{2}{3}$ | f) $\frac{5}{6}$ |
| g) $\frac{1}{7}$ | h) $\frac{2}{5}$ |

11. a) Write each decimal as a fraction.

Which fractions are perfect squares?

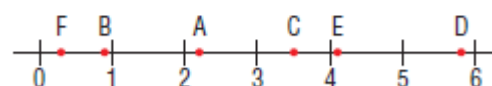
- |           |           |              |
|-----------|-----------|--------------|
| i) 36.0   | ii) 3.6   | iii) 0.36    |
| iv) 0.036 | v) 0.0036 | vi) 0.000 36 |

- b) To check your answers to part a, use a calculator to determine a square root of each decimal.  
c) What patterns do you see in your answers to parts a and b?  
d) When can you use the square roots of perfect squares to determine the square roots of decimals?

### 13. Assessment Focus

- a) Which letter on the number line below corresponds to each square root? Justify your answers.

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| i) $\sqrt{12.25}$           | ii) $\sqrt{\frac{121}{25}}$ | iii) $\sqrt{16.81}$         |
| iv) $\sqrt{\frac{81}{100}}$ | v) $\sqrt{0.09}$            | vi) $\sqrt{\frac{841}{25}}$ |



- b) Sketch the number line in part a. Write 3 different decimals, then use the letters G, H, and J to represent their square roots. Place each letter on the number line. Justify its placement.

14. A square has area  $5.76 \text{ cm}^2$ .

- a) What is the side length of the square?  
b) What is the perimeter of the square?  
How do you know?

15. A square piece of land has an area not less than  $6.25 \text{ km}^2$  and not greater than  $10.24 \text{ km}^2$ .

- a) What is the least possible side length of the square?  
b) What is the greatest possible side length of the square?  
c) A surveyor determined that the side length is 2.8 km. What is the area of the square?

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18. Are there any perfect squares between 0.64 and 0.81? Justify your answer.
19. A student has a rectangular piece of paper 7.2 cm by 1.8 cm. She cuts the paper into parts that can be rearranged and taped to form a square.
- a) What is the side length of the square?
  - b) What are the fewest cuts the student could have made? Justify your answer.